

**Work Order ID 151554****\*151554\***

Page 1

Tuesday, September 27, 2016 2:32:48 PM

Item ID: D4527-1

Accept

**\*N900040100\***Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Bracket

Start Date: 9/21/2016 Start Qty: 6.00

**\*6\***  
**\*6\***

Cust Item ID:

Required Date: 9/27/2016 Req'd Qty: 6.00

Customer:

Reference:

**DAS**  
**21**

Approvals:

Process Plan: **9-89**Date: **SEP 28 2016**

Tooling:

Date:

Run Start **\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop **\*NR2\***

| Sequence ID/<br>Work Center ID | Operation<br>Description | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
| Draw Nbr                       | Revision Nbr             |                      |         |        |              |               |               |                  |                |
| D4527                          | B                        |                      |         |        |              |               |               |                  |                |

110

0.00

**\*110\***

Waterjet

FLOW CNC Waterjet

Memo

CUT AS DWG

DWG REV: **B**PROG REV: **B**

DEBURR.

0.64

**9****09/29/16**

120

QC2- Inspect parts off machine FAI/FAIB

0.00

**\*120\***

QC

Quality Control

Memo

0.01

**9****09/29/16**

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

## WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

|                                                              |  |                                                                                                                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  |  |                                                                                                                                                     |  |
|--------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|-----------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____ |  | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/> |  | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Thermoforming <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Cross tube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/><br/>           Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/><br/>           Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Quality <input type="checkbox"/><br/>           Other <input type="checkbox"/> </div> </div> |  |  |  |                                                                                                                                                     |  |
| Date :                                                       |  | Step #:                                                                                                                                                                            |  | QTY Effective :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  |  | MRB (QSI042) Approval<br><br><br>Completed By<br><br><br>Lead hand / Supervisor<br>Approval Verification<br><br><br>QC / QA Coordinator<br>Approval |  |
| Description Work Order Deviation                             |  |                                                                                                                                                                                    |  | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |                                                                                                                                                     |  |
|                                                              |  |                                                                                                                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  |  |                                                                                                                                                     |  |

|                   |                          |        |                          |                       |                          |               |                          |              |                          |          |                          |                    |                          |                  |                          |     |                          |            |                          |                  |                          |               |                          |                    |                          |          |                          |              |                          |          |                          |          |                          |                 |                          |                  |                          |         |                          |                     |                          |                     |                          |                       |                          |          |                          |                 |                          |         |                          |                       |                          |        |                          |                        |                          |       |                          |          |                          |            |                          |                    |                          |               |                          |                  |                          |        |                          |           |                          |                      |                          |                                   |                          |               |                          |             |                          |               |                          |                                 |                          |             |                          |                  |                          |               |                          |       |                          |      |                          |                    |                          |                 |                          |         |                          |            |                          |              |                          |                       |                          |                  |                          |                    |                          |                      |                          |                |                          |                   |                          |            |                          |         |                          |        |                          |         |                          |                  |                          |
|-------------------|--------------------------|--------|--------------------------|-----------------------|--------------------------|---------------|--------------------------|--------------|--------------------------|----------|--------------------------|--------------------|--------------------------|------------------|--------------------------|-----|--------------------------|------------|--------------------------|------------------|--------------------------|---------------|--------------------------|--------------------|--------------------------|----------|--------------------------|--------------|--------------------------|----------|--------------------------|----------|--------------------------|-----------------|--------------------------|------------------|--------------------------|---------|--------------------------|---------------------|--------------------------|---------------------|--------------------------|-----------------------|--------------------------|----------|--------------------------|-----------------|--------------------------|---------|--------------------------|-----------------------|--------------------------|--------|--------------------------|------------------------|--------------------------|-------|--------------------------|----------|--------------------------|------------|--------------------------|--------------------|--------------------------|---------------|--------------------------|------------------|--------------------------|--------|--------------------------|-----------|--------------------------|----------------------|--------------------------|-----------------------------------|--------------------------|---------------|--------------------------|-------------|--------------------------|---------------|--------------------------|---------------------------------|--------------------------|-------------|--------------------------|------------------|--------------------------|---------------|--------------------------|-------|--------------------------|------|--------------------------|--------------------|--------------------------|-----------------|--------------------------|---------|--------------------------|------------|--------------------------|--------------|--------------------------|-----------------------|--------------------------|------------------|--------------------------|--------------------|--------------------------|----------------------|--------------------------|----------------|--------------------------|-------------------|--------------------------|------------|--------------------------|---------|--------------------------|--------|--------------------------|---------|--------------------------|------------------|--------------------------|
| <b>Root Cause</b> |                          |        |                          | <b>FAULT CATEGORY</b> |                          |               |                          |              |                          |          |                          |                    |                          |                  |                          |     |                          |            |                          |                  |                          |               |                          |                    |                          |          |                          |              |                          |          |                          |          |                          |                 |                          |                  |                          |         |                          |                     |                          |                     |                          |                       |                          |          |                          |                 |                          |         |                          |                       |                          |        |                          |                        |                          |       |                          |          |                          |            |                          |                    |                          |               |                          |                  |                          |        |                          |           |                          |                      |                          |                                   |                          |               |                          |             |                          |               |                          |                                 |                          |             |                          |                  |                          |               |                          |       |                          |      |                          |                    |                          |                 |                          |         |                          |            |                          |              |                          |                       |                          |                  |                          |                    |                          |                      |                          |                |                          |                   |                          |            |                          |         |                          |        |                          |         |                          |                  |                          |
| Environment       | <input type="checkbox"/> | Design | <input type="checkbox"/> | Doc/Data              | <input type="checkbox"/> | Equip/Tooling | <input type="checkbox"/> | Handling/Pre | <input type="checkbox"/> | Material | <input type="checkbox"/> | Internal Transport | <input type="checkbox"/> | Tribal Knowledge | <input type="checkbox"/> | LOA | <input type="checkbox"/> | Substation | <input type="checkbox"/> | Past Expiry Date | <input type="checkbox"/> | Misidentified | <input type="checkbox"/> | No Re-verification | <input type="checkbox"/> | Operator | <input type="checkbox"/> | Offset/Setup | <input type="checkbox"/> | Supplier | <input type="checkbox"/> | Training | <input type="checkbox"/> | Use for Testing | <input type="checkbox"/> | Poor Information | <input type="checkbox"/> | Rushing | <input type="checkbox"/> | Product Improvement | <input type="checkbox"/> | Process Improvement | <input type="checkbox"/> | Manufacturing Process | <input type="checkbox"/> | Past Due | <input type="checkbox"/> | Pressure/Forced | <input type="checkbox"/> | Bending | <input type="checkbox"/> | Centre Not Concentric | <input type="checkbox"/> | Cracks | <input type="checkbox"/> | Crimp/Kink/Ripple/Wave | <input type="checkbox"/> | Cuffs | <input type="checkbox"/> | Crushing | <input type="checkbox"/> | Heat Treat | <input type="checkbox"/> | Wave/Twist in Tube | <input type="checkbox"/> | Marks/Chatter | <input type="checkbox"/> | Temperature/Cure | <input type="checkbox"/> | Set-up | <input type="checkbox"/> | BOM/Route | <input type="checkbox"/> | Broken/Damage/Defect | <input type="checkbox"/> | Inspection Incomplete/Unqualified | <input type="checkbox"/> | Contamination | <input type="checkbox"/> | Countersink | <input type="checkbox"/> | Cut Too Short | <input type="checkbox"/> | Instructions Incomplete/Unclear | <input type="checkbox"/> | Drill Holes | <input type="checkbox"/> | Power Loss/Surge | <input type="checkbox"/> | Folio/Program | <input type="checkbox"/> | Grain | <input type="checkbox"/> | Weld | <input type="checkbox"/> | Wrong Stock Pulled | <input type="checkbox"/> | Out of Sequence | <input type="checkbox"/> | Off-set | <input type="checkbox"/> | Mislabeled | <input type="checkbox"/> | Fit/Function | <input type="checkbox"/> | Misaligned/off center | <input type="checkbox"/> | Positioned Wrong | <input type="checkbox"/> | Outside Dimensions | <input type="checkbox"/> | Over/Under tolerance | <input type="checkbox"/> | Part Incorrect | <input type="checkbox"/> | Part Lost/Missing | <input type="checkbox"/> | Part Moved | <input type="checkbox"/> | Drawing | <input type="checkbox"/> | Finish | <input type="checkbox"/> | Misread | <input type="checkbox"/> | Turning Sequence | <input type="checkbox"/> |
| OTHER : _____     |                          |        |                          |                       |                          |               |                          |              |                          |          |                          |                    |                          |                  |                          |     |                          |            |                          |                  |                          |               |                          |                    |                          |          |                          |              |                          |          |                          |          |                          |                 |                          |                  |                          |         |                          |                     |                          |                     |                          |                       |                          |          |                          |                 |                          |         |                          |                       |                          |        |                          |                        |                          |       |                          |          |                          |            |                          |                    |                          |               |                          |                  |                          |        |                          |           |                          |                      |                          |                                   |                          |               |                          |             |                          |               |                          |                                 |                          |             |                          |                  |                          |               |                          |       |                          |      |                          |                    |                          |                 |                          |         |                          |            |                          |              |                          |                       |                          |                  |                          |                    |                          |                      |                          |                |                          |                   |                          |            |                          |         |                          |        |                          |         |                          |                  |                          |

**Work Order ID 151554**

Tuesday, September 27, 2016 2:32:48 PM

**\*151554\***

Page 2

Item ID: D4527-1      Accept      **\*N900040100\***      Setup Start **\*NS1\***  
Revision ID:      Stop **\*NS2\***  
Item Name: Bracket  
Start Date: 9/21/2016      Start Qty: 6.00      **\*6\***      Cust Item ID:  
Required Date: 9/27/2016      Req'd Qty: 6.00      **\*6\***      Customer:  
Reference:

Approvals:      Process Plan:      Date:      Tooling:      Date:      Run Start **\*NR1\***  
QC:      Date:      SPC (Y/N):      Date:      Stop **\*NR2\***

| Sequence ID/<br>Work Center ID                                   | Operation<br>Description                                                                                               | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp                |
|------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|-------------------------------|
| 130<br><b>*130*</b><br>Mill Conv<br>Conventional Milling Machine | <b>Memo</b><br>1- Drill holes as per dwg<br>2- C'sink hole as per dwg<br>3- Ream 1.000" hole as per dwg<br>USE DT10120 | 0.00<br>0.78         |         |        |              | 9             | 0             |                  | DAS<br>32<br>9-89<br>18-00-06 |
| 140<br><b>*140*</b><br>QC<br>Quality Control                     | QC2- Inspect parts off machine FAI/FAIB<br><b>Memo</b>                                                                 | 0.00<br>0.01         |         |        |              | 9             | 0             |                  | DAS<br>32<br>9-89<br>16-10-06 |
| 150<br><b>*150*</b><br>QC<br>Quality Control                     | QC8- Inspect parts - second check<br><b>Memo</b>                                                                       | 0.00<br>0.02         |         |        |              | 9             | 0             |                  | DAS<br>14<br>9-89<br>16/10/07 |



DQA: \_\_\_\_\_ Date: \_\_\_\_\_

## WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |  |                                                                                                                                                     |  |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|-----------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>             Skid-tube <input type="checkbox"/><br/>             Machining <input type="checkbox"/><br/>             Thermoforming <input type="checkbox"/><br/>             Large Fab <input type="checkbox"/> </div> <div>             Cross tube <input type="checkbox"/><br/>             Small Fab <input type="checkbox"/><br/>             Finishing <input type="checkbox"/><br/>             Composite <input type="checkbox"/> </div> <div>             Water Jet <input type="checkbox"/><br/>             Prod. Eng. Coord. <input type="checkbox"/><br/>             Rec/Store/Packaging <input type="checkbox"/><br/>             Supplier <input type="checkbox"/> </div> <div>             Engineering <input type="checkbox"/><br/>             Quality <input type="checkbox"/><br/>             Other <input type="checkbox"/> </div> </div>                                                                                                                                                                                                                                                                         |  |  |                                                                                                                                                     |  |  |
| Date :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  | Step #:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  | QTY Effective :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |  | MRB (QSI042) Approval<br><br><br>Completed By<br><br><br>Lead hand / Supervisor<br>Approval Verification<br><br><br>QC / QA Coordinator<br>Approval |  |  |
| Description Work Order Deviation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |                                                                                                                                                     |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |  |                                                                                                                                                     |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |  |                                                                                                                                                     |  |  |
| <b>Root Cause</b><br><div style="display: flex;"> <div style="width: 50%;">             Environment <input type="checkbox"/><br/>             Design <input type="checkbox"/><br/>             Doc/Data <input type="checkbox"/><br/>             Equip/Tooling <input type="checkbox"/><br/>             Handling/Pre <input type="checkbox"/><br/>             Material <input type="checkbox"/><br/>             Internal Transport <input type="checkbox"/><br/>             Tribal Knowledge <input type="checkbox"/><br/>             LOA <input type="checkbox"/><br/>             Substation <input type="checkbox"/><br/>             Past Expiry Date <input type="checkbox"/><br/>             Misidentified <input type="checkbox"/> </div> <div style="width: 50%;">             No Re-verification <input type="checkbox"/><br/>             Operator <input type="checkbox"/><br/>             Offset/Setup <input type="checkbox"/><br/>             Supplier <input type="checkbox"/><br/>             Training <input type="checkbox"/><br/>             Use for Testing <input type="checkbox"/><br/>             Poor Information <input type="checkbox"/><br/>             Rushing <input type="checkbox"/><br/>             Product Improvement <input type="checkbox"/><br/>             Process Improvement <input type="checkbox"/><br/>             Manufacturing Process <input type="checkbox"/><br/>             Past Due <input type="checkbox"/> </div> </div> |  | <b>FAULT CATEGORY</b><br><div style="display: flex;"> <div style="width: 50%;">             Pressure/Forced <input type="checkbox"/><br/>             Bending <input type="checkbox"/><br/>             Centre Not Concentric <input type="checkbox"/><br/>             Cracks <input type="checkbox"/><br/>             Crimp/Kink/Ripple/Wave <input type="checkbox"/><br/>             Cuffs <input type="checkbox"/><br/>             Crushing <input type="checkbox"/><br/>             Heat Treat <input type="checkbox"/><br/>             Wave/Twist in Tube <input type="checkbox"/><br/>             Marks/Chatter <input type="checkbox"/> </div> <div style="width: 50%;">             Temperature/Cure <input type="checkbox"/><br/>             Set-up <input type="checkbox"/><br/>             BOM/Route <input type="checkbox"/><br/>             Broken/Damage/Defect <input type="checkbox"/><br/>             Inspection Incomplete/Unqualified <input type="checkbox"/><br/>             Contamination <input type="checkbox"/><br/>             Countersink <input type="checkbox"/><br/>             Cut Too Short <input type="checkbox"/><br/>             Instructions Incomplete/Unclear <input type="checkbox"/><br/>             Drill Holes <input type="checkbox"/> </div> </div> |  | <div style="display: flex;"> <div style="width: 50%;">             Power Loss/Surge <input type="checkbox"/><br/>             Folio/Program <input type="checkbox"/><br/>             Grain <input type="checkbox"/><br/>             Weld <input type="checkbox"/><br/>             Wrong Stock Pulled <input type="checkbox"/><br/>             Out of Sequence <input type="checkbox"/><br/>             Off-set <input type="checkbox"/><br/>             Misabeled <input type="checkbox"/><br/>             Fit/Function <input type="checkbox"/><br/>             Misaligned/off center <input type="checkbox"/> </div> <div style="width: 50%;">             Positioned Wrong <input type="checkbox"/><br/>             Outside Dimensions <input type="checkbox"/><br/>             Over/Under tolerance <input type="checkbox"/><br/>             Part Incorrect <input type="checkbox"/><br/>             Part Lost/Missing <input type="checkbox"/><br/>             Part Moved <input type="checkbox"/><br/>             Drawing <input type="checkbox"/><br/>             Finish <input type="checkbox"/><br/>             Misread <input type="checkbox"/><br/>             Turning Sequence <input type="checkbox"/> </div> </div> |  |  |                                                                                                                                                     |  |  |
| OTHER : <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |  |                                                                                                                                                     |  |  |



DQA: \_\_\_\_\_ Date: \_\_\_\_\_

## WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

|                                                              |  |                                                                                                                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |                                                                                                                   |  |  |
|--------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|-------------------------------------------------------------------------------------------------------------------|--|--|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____ |  | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/> |  | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>             Skid-tube <input type="checkbox"/><br/>             Machining <input type="checkbox"/><br/>             Thermoforming <input type="checkbox"/><br/>             Large Fab <input type="checkbox"/> </div> <div>             Cross tube <input type="checkbox"/><br/>             Small Fab <input type="checkbox"/><br/>             Finishing <input type="checkbox"/><br/>             Composite <input type="checkbox"/> </div> <div>             Water Jet <input type="checkbox"/><br/>             Prod. Eng. Coord. <input type="checkbox"/><br/>             Rec/Store/Packaging <input type="checkbox"/><br/>             Supplier <input type="checkbox"/> </div> <div>             Engineering <input type="checkbox"/><br/>             Quality <input type="checkbox"/><br/>             Other <input type="checkbox"/> </div> </div> |  |  |                                                                                                                   |  |  |
| Date :                                                       |  | Step #:                                                                                                                                                                            |  | QTY Effective :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  | <b>MRB (QSI042) Approval</b><br><br><div style="border: 1px solid black; height: 150px; margin-top: 10px;"></div> |  |  |
| Description Work Order Deviation                             |  |                                                                                                                                                                                    |  | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |                                                                                                                   |  |  |
|                                                              |  |                                                                                                                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |                                                                                                                   |  |  |
|                                                              |  |                                                                                                                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |                                                                                                                   |  |  |
|                                                              |  |                                                                                                                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  | Completed By                                                                                                      |  |  |
|                                                              |  |                                                                                                                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  | Lead hand / Supervisor<br>Approval Verification                                                                   |  |  |
|                                                              |  |                                                                                                                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  | QC / QA Coordinator<br>Approval                                                                                   |  |  |

| Root Cause                                  |  |                                                |  | FAULT CATEGORY                                  |  |                                                            |  |
|---------------------------------------------|--|------------------------------------------------|--|-------------------------------------------------|--|------------------------------------------------------------|--|
| Environment <input type="checkbox"/>        |  | No Re-verification <input type="checkbox"/>    |  | Pressure/Forced <input type="checkbox"/>        |  | Temperature/Cure <input type="checkbox"/>                  |  |
| Design <input type="checkbox"/>             |  | Operator <input type="checkbox"/>              |  | Bending <input type="checkbox"/>                |  | Set-up <input type="checkbox"/>                            |  |
| Doc/Data <input type="checkbox"/>           |  | Offset/Setup <input type="checkbox"/>          |  | Centre Not Concentric <input type="checkbox"/>  |  | BOM/Route <input type="checkbox"/>                         |  |
| Equip/Tooling <input type="checkbox"/>      |  | Supplier <input type="checkbox"/>              |  | Cracks <input type="checkbox"/>                 |  | Broken/Damage/Defect <input type="checkbox"/>              |  |
| Handling/Pre <input type="checkbox"/>       |  | Training <input type="checkbox"/>              |  | Crimp/Kink/Ripple/Wave <input type="checkbox"/> |  | Inspection Incomplete/Unqualified <input type="checkbox"/> |  |
| Material <input type="checkbox"/>           |  | Use for Testing <input type="checkbox"/>       |  | Cuffs <input type="checkbox"/>                  |  | Contamination <input type="checkbox"/>                     |  |
| Internal Transport <input type="checkbox"/> |  | Poor Information <input type="checkbox"/>      |  | Crushing <input type="checkbox"/>               |  | Countersink <input type="checkbox"/>                       |  |
| Tribal Knowledge <input type="checkbox"/>   |  | Rushing <input type="checkbox"/>               |  | Heat Treat <input type="checkbox"/>             |  | Cut Too Short <input type="checkbox"/>                     |  |
| LOA <input type="checkbox"/>                |  | Product Improvement <input type="checkbox"/>   |  | Wave/Twist in Tube <input type="checkbox"/>     |  | Instructions Incomplete/Unclear <input type="checkbox"/>   |  |
| Substation <input type="checkbox"/>         |  | Process Improvement <input type="checkbox"/>   |  | Marks/Chatter <input type="checkbox"/>          |  | Drill Holes <input type="checkbox"/>                       |  |
| Past Expiry Date <input type="checkbox"/>   |  | Manufacturing Process <input type="checkbox"/> |  | <b>OTHER :</b> _____                            |  |                                                            |  |
| Misidentified <input type="checkbox"/>      |  | Past Due <input type="checkbox"/>              |  |                                                 |  |                                                            |  |



**Work Order ID 151554****\*151554\***

Page 4

Tuesday, September 27, 2016 2:32:48 PM

Item ID: D4527-1

Accept

**\*N900040100\***Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Bracket

Start Date: 9/21/2016 Start Qty: 6.00

**\*6\***

Cust Item ID:

Required Date: 9/27/2016 Req'd Qty: 6.00

**\*6\***

Customer:

Reference:

Approvals:

Process Plan: \_\_\_\_\_

Date: \_\_\_\_\_

Tooling: \_\_\_\_\_

Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_

Date: \_\_\_\_\_

SPC (Y/N): \_\_\_\_\_

Date: \_\_\_\_\_

Stop **\*NR2\***Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

190

QC21- Final Inspection - Work Order Release

0.00

**\*190\***

QC

Memo

0.10

Quality Control

16/10/2016

16-10-20

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

## WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

|                                                              |  |                                                                                                                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  |  |                                                                                                                                   |  |
|--------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|-----------------------------------------------------------------------------------------------------------------------------------|--|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____ |  | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/> |  | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Thermoforming <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Cross tube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/><br/>           Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/><br/>           Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Quality <input type="checkbox"/><br/>           Other <input type="checkbox"/> </div> </div> |  |  |  |                                                                                                                                   |  |
| Date :                                                       |  | Step #:                                                                                                                                                                            |  | QTY Effective :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  |  | MRB (QSI042) Approval<br><br>Completed By<br><br>Lead hand / Supervisor Approval Verification<br><br>QC / QA Coordinator Approval |  |
| Description Work Order Deviation                             |  |                                                                                                                                                                                    |  | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |                                                                                                                                   |  |
|                                                              |  |                                                                                                                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  |  |                                                                                                                                   |  |

| Root Cause         |                          |                       |                          | FAULT CATEGORY         |                          |                                   |                          |
|--------------------|--------------------------|-----------------------|--------------------------|------------------------|--------------------------|-----------------------------------|--------------------------|
| Environment        | <input type="checkbox"/> | No Re-verification    | <input type="checkbox"/> | Pressure/Forced        | <input type="checkbox"/> | Temperature/Cure                  | <input type="checkbox"/> |
| Design             | <input type="checkbox"/> | Operator              | <input type="checkbox"/> | Bending                | <input type="checkbox"/> | Set-up                            | <input type="checkbox"/> |
| Doc/Data           | <input type="checkbox"/> | Offset/Setup          | <input type="checkbox"/> | Centre Not Concentric  | <input type="checkbox"/> | BOM/Route                         | <input type="checkbox"/> |
| Equip/Tooling      | <input type="checkbox"/> | Supplier              | <input type="checkbox"/> | Cracks                 | <input type="checkbox"/> | Broken/Damage/Defect              | <input type="checkbox"/> |
| Handling/Pre       | <input type="checkbox"/> | Training              | <input type="checkbox"/> | Crimp/Kink/Ripple/Wave | <input type="checkbox"/> | Inspection Incomplete/Unqualified | <input type="checkbox"/> |
| Material           | <input type="checkbox"/> | Use for Testing       | <input type="checkbox"/> | Cuffs                  | <input type="checkbox"/> | Contamination                     | <input type="checkbox"/> |
| Internal Transport | <input type="checkbox"/> | Poor Information      | <input type="checkbox"/> | Crushing               | <input type="checkbox"/> | Countersink                       | <input type="checkbox"/> |
| Tribal Knowledge   | <input type="checkbox"/> | Rushing               | <input type="checkbox"/> | Heat Treat             | <input type="checkbox"/> | Cut Too Short                     | <input type="checkbox"/> |
| LOA                | <input type="checkbox"/> | Product Improvement   | <input type="checkbox"/> | Wave/Twist in Tube     | <input type="checkbox"/> | Instructions Incomplete/Unclear   | <input type="checkbox"/> |
| Substation         | <input type="checkbox"/> | Process Improvement   | <input type="checkbox"/> | Marks/Chatter          | <input type="checkbox"/> | Drill Holes                       | <input type="checkbox"/> |
| Past Expiry Date   | <input type="checkbox"/> | Manufacturing Process | <input type="checkbox"/> | OTHER :                |                          |                                   |                          |
| Misidentified      | <input type="checkbox"/> | Past Due              | <input type="checkbox"/> |                        |                          |                                   |                          |



# Picklist Print

Tuesday, September 27, 2016 2:32:51 PM

Page 1

Work Order ID: 151554

**\*151554\***

Parent Item: D4527-1

**\*D4527-1\***

Parent Item Name: Bracket

Start Date: 9/21/2016

Required Date: 9/27/2016

Start Qty: 6.00

Required Qty: 6.00

Comments: IPP REV:A 11.11.29 NEW ISSUE DD VERF:EC

| Component Item ID/<br>Item Name | Replacement<br>Item ID | Mfg/<br>Purch | Bin<br>Item | Primary<br>Location | Last<br>Location | Route<br>Seq ID | Unit of<br>Measure | Qty on<br>Hand | Qty per Kit | Total<br>Qty | Qty<br>Issued | Date<br>Issued | Status |
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|--------------|---------------|----------------|--------|
| M6061T6B0.750X08.00<br>0        |                        | Purchased     | No          |                     |                  | 110             | f                  | 4.5000         | 0.59        | 3.726316     |               |                |        |

**\*M6061T6B0 750X08 000\***

6061-T6 BAR .750" X 8.00"

**\*\***

*216/09/29*

Location

Loc Qty

Loc Code

MAT003

4.5

m134377

4.5

4.5

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

## WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |                                                                                                                                                     |  |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|-----------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>             Skid-tube <input type="checkbox"/><br/>             Machining <input type="checkbox"/><br/>             Thermoforming <input type="checkbox"/><br/>             Large Fab <input type="checkbox"/> </div> <div>             Cross tube <input type="checkbox"/><br/>             Small Fab <input type="checkbox"/><br/>             Finishing <input type="checkbox"/><br/>             Composite <input type="checkbox"/> </div> <div>             Water Jet <input type="checkbox"/><br/>             Prod. Eng. Coord. <input type="checkbox"/><br/>             Rec/Store/Packaging <input type="checkbox"/><br/>             Supplier <input type="checkbox"/> </div> <div>             Engineering <input type="checkbox"/><br/>             Quality <input type="checkbox"/><br/>             Other <input type="checkbox"/> </div> </div> |  |  |                                                                                                                                                     |  |  |
| Date : _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  | Step #: _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | QTY Effective : _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |  | MRB (QSI042) Approval<br><br><br>Completed By<br><br><br>Lead hand / Supervisor<br>Approval Verification<br><br><br>QC / QA Coordinator<br>Approval |  |  |
| Description Work Order Deviation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |                                                                                                                                                     |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |                                                                                                                                                     |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |                                                                                                                                                     |  |  |
| <b>Root Cause</b><br><div style="display: flex; justify-content: space-between;"> <div>             Environment <input type="checkbox"/><br/>             Design <input type="checkbox"/><br/>             Doc/Data <input type="checkbox"/><br/>             Equip/Tooling <input type="checkbox"/><br/>             Handling/Pre <input type="checkbox"/><br/>             Material <input type="checkbox"/><br/>             Internal Transport <input type="checkbox"/><br/>             Tribal Knowledge <input type="checkbox"/><br/>             LOA <input type="checkbox"/><br/>             Substation <input type="checkbox"/><br/>             Past Expiry Date <input type="checkbox"/><br/>             Misidentified <input type="checkbox"/> </div> <div>             No Re-verification <input type="checkbox"/><br/>             Operator <input type="checkbox"/><br/>             Offset/Setup <input type="checkbox"/><br/>             Supplier <input type="checkbox"/><br/>             Training <input type="checkbox"/><br/>             Use for Testing <input type="checkbox"/><br/>             Poor Information <input type="checkbox"/><br/>             Rushing <input type="checkbox"/><br/>             Product Improvement <input type="checkbox"/><br/>             Process Improvement <input type="checkbox"/><br/>             Manufacturing Process <input type="checkbox"/><br/>             Past Due <input type="checkbox"/> </div> </div> |  | <b>FAULT CATEGORY</b><br><div style="display: flex; justify-content: space-between;"> <div>             Pressure/Forced <input type="checkbox"/><br/>             Bending <input type="checkbox"/><br/>             Centre Not Concentric <input type="checkbox"/><br/>             Cracks <input type="checkbox"/><br/>             Crimp/Kink/Ripple/Wave <input type="checkbox"/><br/>             Cuffs <input type="checkbox"/><br/>             Crushing <input type="checkbox"/><br/>             Heat Treat <input type="checkbox"/><br/>             Wave/Twist in Tube <input type="checkbox"/><br/>             Marks/Chatter <input type="checkbox"/> </div> <div>             Temperature/Cure <input type="checkbox"/><br/>             Set-up <input type="checkbox"/><br/>             BOM/Route <input type="checkbox"/><br/>             Broken/Damage/Defect <input type="checkbox"/><br/>             Inspection Incomplete/Unqualified <input type="checkbox"/><br/>             Contamination <input type="checkbox"/><br/>             Countersink <input type="checkbox"/><br/>             Cut Too Short <input type="checkbox"/><br/>             Instructions Incomplete/Unclear <input type="checkbox"/><br/>             Drill Holes <input type="checkbox"/> </div> <div>             Power Loss/Surge <input type="checkbox"/><br/>             Folio/Program <input type="checkbox"/><br/>             Grain <input type="checkbox"/><br/>             Weld <input type="checkbox"/><br/>             Wrong Stock Pulled <input type="checkbox"/><br/>             Out of Sequence <input type="checkbox"/><br/>             Off-set <input type="checkbox"/><br/>             Mislabeled <input type="checkbox"/><br/>             Fit/Function <input type="checkbox"/><br/>             Misaligned/off center <input type="checkbox"/> </div> <div>             Positioned Wrong <input type="checkbox"/><br/>             Outside Dimensions <input type="checkbox"/><br/>             Over/Under tolerance <input type="checkbox"/><br/>             Part Incorrect <input type="checkbox"/><br/>             Part Lost/Missing <input type="checkbox"/><br/>             Part Moved <input type="checkbox"/><br/>             Drawing <input type="checkbox"/><br/>             Finish <input type="checkbox"/><br/>             Misread <input type="checkbox"/><br/>             Turning Sequence <input type="checkbox"/> </div> </div> |  | OTHER : _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  |                                                                                                                                                     |  |  |

|                                            |  |                     |         |
|--------------------------------------------|--|---------------------|---------|
| <b>DART AEROSPACE LTD</b>                  |  | <b>Work Order:</b>  | 151554  |
| <b>Description:</b> Bracket                |  | <b>Part Number:</b> | D4527-1 |
| <b>Inspection Dwg:</b> D4527 <b>Rev:</b> B |  | <b>Page 1 of 1</b>  |         |

### INSPECTION SHEET

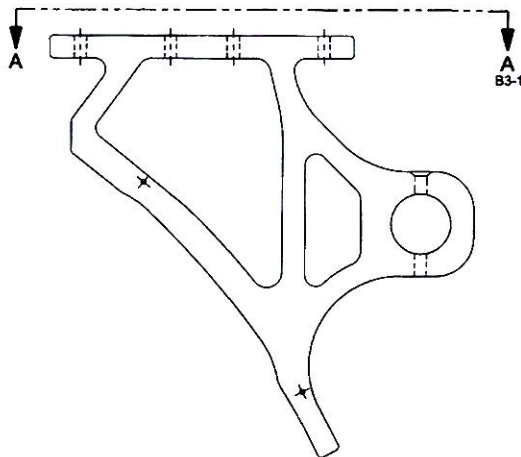
| Drawing Dimension | Tolerance          | Actual Dimension | Accept | Reject | Method of Inspection | Comments |
|-------------------|--------------------|------------------|--------|--------|----------------------|----------|
| 0.92              | +/-0.030           | .915             | /      |        | V=0.02               |          |
| 3.85              | +/-0.030           | 3.85             | /      |        | Tape                 |          |
| 4.03              | +/-0.030           | 4.03             | /      |        |                      |          |
| 5.03              | +/-0.030           | 5.025            | /      |        |                      |          |
| 5.16              | +/-0.030           | 5.16             | /      |        |                      |          |
| 7.03              | +/-0.030           | 7.03             | /      |        |                      |          |
| 0.38              | +/-0.030           | .386             | /      |        |                      |          |
| 1.96              | +/-0.030           | 1.967            | /      |        |                      |          |
| 2.25              | +/-0.030           | 2.248            | /      |        |                      |          |
| 4.00              | +/-0.030           | 4.00             | /      |        |                      |          |
| 4.20              | +/-0.030           | 4.20             | /      |        |                      |          |
| 7.03              | +/-0.030           | 7.029            | /      |        |                      |          |
| 0.38              | +/-0.030           | .379             | /      |        |                      |          |
| 4.82              | +/-0.030           | 4.82             | /      |        |                      |          |
| .75               | +/-0.030           | .747             | /      |        |                      |          |
| Ø0.080            | +0.004/-0.001      | 0.080            | ✓      |        | Caliper              | 3CL-08   |
| 0.50              | +/-0.030           | 0.500            | ✓      |        |                      |          |
| 1.500             | +/-0.010           | 1.500            | ✓      |        |                      |          |
| 2.530             | +/-0.010           | 2.530            | ✓      |        |                      |          |
| 1.500             | +/-0.010           | 1.500            | ✓      |        |                      |          |
| Ø0.201            | +0.005/-0.001      | 0.202            | ✓      |        |                      |          |
| 0.875             | +/-0.010           | 0.878            | ✓      |        | H.G.                 | 31006    |
| Ø0.196            | +0.005/-0.001      | 0.197            | ✓      |        | Caliper              | 3CL-08   |
| CSK Ø0.370 x 100° | +/-0.010 x +/-0.5° | 0.375            | ✓      |        | "                    |          |
| 0.875             | +/-0.010           | 0.877            | ✓      |        | H.G.                 | 31006    |
| 3.13              | +/-0.030           | 3.134            | ✓      |        | "                    |          |
| Ø1.000            | +0.003/-0.000      | 1.001            | ✓      |        | Caliper              | 3CL-08   |

|                               |                              |                      |
|-------------------------------|------------------------------|----------------------|
| <b>Measured by:</b> <i>DC</i> | <b>Checked by:</b> <i>14</i> | <b>QC Inspector:</b> |
| <b>Date:</b> 16/09/29         | <b>Date:</b> 16/10/07        | <b>Date:</b>         |

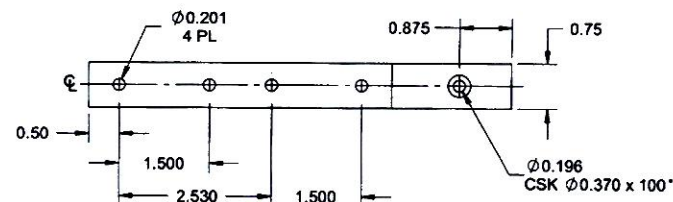
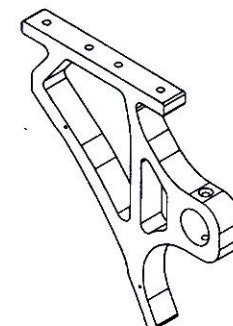
|                                                |              |
|------------------------------------------------|--------------|
| <b>Engineering Approval:</b><br>(If necessary) | <b>Date:</b> |
|------------------------------------------------|--------------|

| Rev | Date     | Change                           | Revised by | Approved |
|-----|----------|----------------------------------|------------|----------|
| A   | 12.02.01 | New Issue                        | KJ         |          |
| B   | 15.07.28 | Dwg Rev updated                  | KJ         |          |
| C   | 16.03.17 | Dimensions revised per Dwg Rev B | KJ         |          |





SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 151554 *MLJ*  
*1609-28*



**SECTION VIEW A-A D6-1**

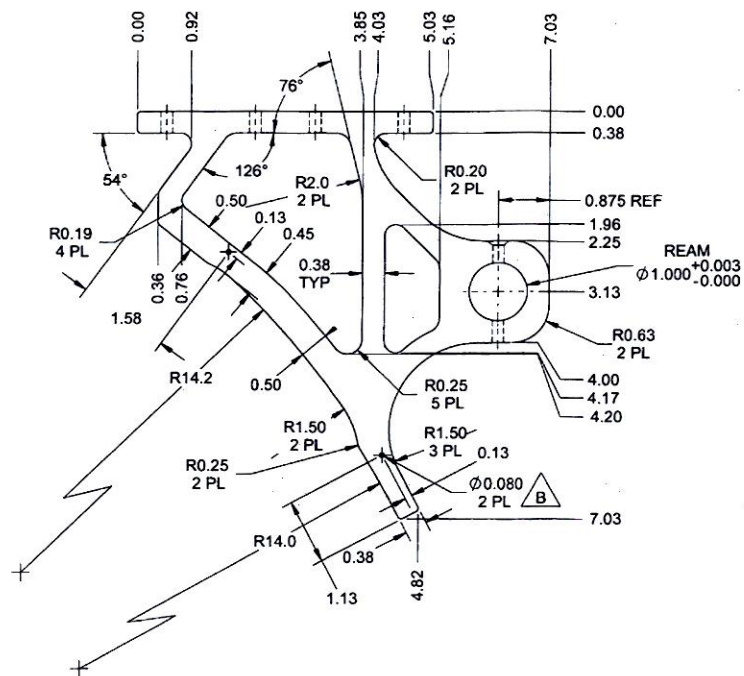
**RELEASED**  
2012-10-31  
*MD*

**NOTES:**

- 1) MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR  
PER QQ-A-225/8 OR AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116)  
OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS 4160)  
OR ASTM B211 OR ASTM B221  
OR 6061-T6/T62 ALUMINUM SHEET  
PER QQ-A-250/11 OR AMS-QQ-A-250/11  
OR AMS 4025 OR AMS 4027  
OR ASTM B209  
REF DART SPEC. M6061T6B/M6061T6S
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.81 lbs

**D4527-1 BRACKET**

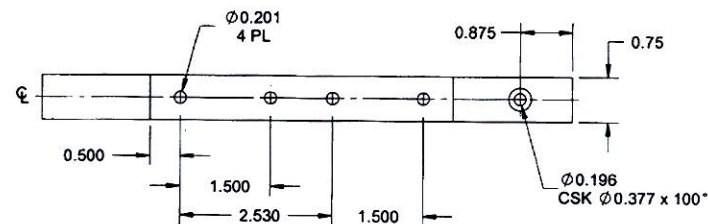
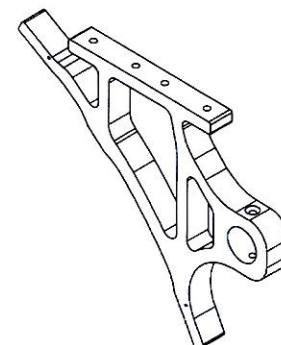
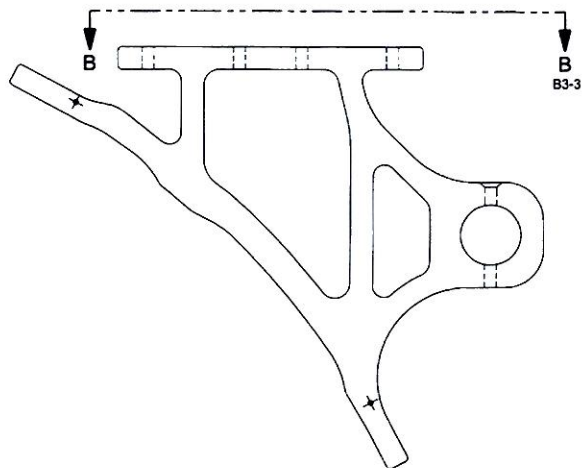
|            |                                  |                                                                                                                                                                                                                                                                                                      |              |
|------------|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| B          | ADD Ø0.080 HOLES (ZN B5-2, B5-4) | RF                                                                                                                                                                                                                                                                                                   | 12.09.18     |
| A          | NEW ISSUE                        | RF                                                                                                                                                                                                                                                                                                   | 11.11.22     |
| REV.       | DESCRIPTION                      | BY                                                                                                                                                                                                                                                                                                   | DATE         |
| DESIGN     | RF                               | <b>DART AEROSPACE USA, INC.</b>                                                                                                                                                                                                                                                                      |              |
| DRAWN      | RF                               | KENT, WA                                                                                                                                                                                                                                                                                             |              |
| CHECKED    | <i>[Signature]</i>               | DRAWING NO.                                                                                                                                                                                                                                                                                          | REV. B       |
| MFG. APPR. | <i>[Signature]</i>               | <b>D4527</b>                                                                                                                                                                                                                                                                                         | SHEET 1 OF 4 |
| APPROVED   | <i>[Signature]</i>               | TITLE                                                                                                                                                                                                                                                                                                | SCALE        |
| DE APPR.   | <i>[Signature]</i>               | <b>BRACKET</b>                                                                                                                                                                                                                                                                                       | NTS          |
| DATE       | 12.09.18                         | <small>COPYRIGHT © 2011 BY DART AEROSPACE USA, INC.<br/>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small> |              |



**D4527-1 BRACKET**

**RELEASED**  
2012-10-31

|            |                    |                                                                                                                                                                                                                                                                                                              |              |
|------------|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| DESIGN     | RF                 | <b>DART AEROSPACE USA, INC.</b>                                                                                                                                                                                                                                                                              |              |
| DRAWN      | RF                 | KENT, WA                                                                                                                                                                                                                                                                                                     |              |
| CHECKED    | <i>[Signature]</i> | DRAWING NO.                                                                                                                                                                                                                                                                                                  | REV. B       |
| MFG. APPR. | <i>[Signature]</i> | D4527                                                                                                                                                                                                                                                                                                        | SHEET 2 OF 4 |
| APPROVED   | <i>[Signature]</i> | TITLE                                                                                                                                                                                                                                                                                                        | SCALE        |
| DE APPR.   | <i>[Signature]</i> | BRACKET                                                                                                                                                                                                                                                                                                      | NTS          |
| DATE       | 12.09.18           | <small>COPYRIGHT © 2011 BY DART AEROSPACE USA, INC.<br/>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS<br/>NOT TO BE USED FOR ANY PURPOSES OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT<br/>WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small> |              |



**SECTION VIEW B-B** B5-3

**D4527-3 BRACKET**

**NOTES:**

- 1) MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR  
PER QQ-A-225/8 OR AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116)  
OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS 4160)  
OR ASTM B211 OR ASTM B221  
OR 6061-T6/T62 ALUMINUM SHEET  
PER QQ-A-250/11 OR AMS-QQ-A-250/11  
OR AMS 4025 OR AMS 4027  
OR ASTM B209  
REF DART SPEC. M6061T6B/M6061T6S
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.90 lbs

**RELEASED**  
2012-10-31  
AW

|            |                    |                                                                                                                                                                                                                                                                                                      |              |
|------------|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| DESIGN     | RF                 | <b>DART AEROSPACE USA, INC.</b>                                                                                                                                                                                                                                                                      |              |
| DRAWN      | RF                 | KENT, WA                                                                                                                                                                                                                                                                                             |              |
| CHECKED    | <i>[Signature]</i> | DRAWING NO.                                                                                                                                                                                                                                                                                          | REV. B       |
| MFG. APPR. | <i>[Signature]</i> | <b>D4527</b>                                                                                                                                                                                                                                                                                         | SHEET 3 OF 4 |
| APPROVED   | <i>[Signature]</i> | TITLE                                                                                                                                                                                                                                                                                                | SCALE        |
| DE APPR.   | <i>[Signature]</i> | <b>BRACKET</b>                                                                                                                                                                                                                                                                                       | NTS          |
| DATE       | 12.09.18           | <small>COPYRIGHT © 2011 BY DART AEROSPACE USA, INC.<br/>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small> |              |





RELEASED  
2012-10-31

**COPYRIGHT © 2011 BY DART AEROSPACE USA, INC.**  
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT  
NOT BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT